CLAIMS

1. A flow-through cell block embedding apparatus, comprising:

a cell flow pathway defined by an inflow tube for delivering cell fragments from a cell sample to a sample port, the sample port being in fluid communication with a tissue cassette having attached thereto a filter, the cell flow pathway being configured so that, upon the application of pressure, the cell fragments are drawn from the cell sample through the inflow tube to the sample port and deposited onto the filter; and

a reagent flow pathway defined by a plurality of reagent delivery tubes for delivering the reagents to a reagent port in communication with the sample port, the reagent flow pathway being configured so that, upon the application of pressure, the reagents are drawn through the reagent delivery tubes to the reagent port and to the deposited cell fragments on the filter.

2. The apparatus of claim 1, wherein the cell fragments are automatically deposited near the plane to be sectioned by a microtome.

3. The apparatus of claim 1, wherein the pressure applied to the reagent flow pathway is a negative pressure.

4. The apparatus of claim 1, wherein the pressure applied to the reagent flow pathway is a positive pressure.

5. The apparatus of claim 1, wherein the pressure applied to the cell flow pathway is a negative pressure.

6. The apparatus of claim 1, wherein the pressure applied to the cell flow pathway is a positive pressure.

7. The apparatus of claim 1, wherein the reagent flow pathway includes a reagent delivery tube for delivering a reagent selected from the group consisting of alcohol xylene, hot paraffin, distilled water, saline, acid, hematoxylin, eosin, and immunohistochemistry reagents.

8. The apparatus of claim 7, wherein the reagent flow pathway includes a heated reagent delivery tube for delivering hot paraffin to the sample port.

9. The apparatus of claim 1, wherein each reagent delivery tube further includes a pump for regulating the flow of reagent through the tube.

10. The apparatus of claim 1, wherein each reagent delivery tube further includes a solenoid tube clamp for forming an airtight pathway.

11. The apparatus of claim 1, wherein the filter is removable from the tissue cassette.

12. The apparatus of claim 11, wherein the filter comprises polycarbonate.

13. The apparatus of claim 1, wherein the tissue cassette further includes a cylindrical port extending through the cassette configured for attachment to the filter.

14. The apparatus of claim 13, wherein the cylindrical port is configured for attachment to the sample port.

15. The apparatus of claim 1, further including a waste container for collecting at least one of the plurality of reagents.

16. The apparatus of claim 15, wherein the waste container includes a port for connecting to a pressure source.

17. The apparatus of claim 16, wherein the port further includes a pressure gauge.

18. The apparatus of claim 1, wherein the sample port is disposable.

19. The apparatus of claim 1, wherein the apparatus is fully automated.